

REMARKS

Applicants submit this Amendment in response to the Office Action mailed February 26, 2003 (Paper No. 8).

Claims 1-44 were originally filed. Claims 2, 3 and 12 were cancelled in the Amendment under 37 CFR 1.111, filed December 4, 2002. Claims 17 and 31-44 were previously withdrawn from consideration as being directed to non-elected subject matter and are cancelled herein. Claims 1, 4-11, 13-16, and 18-30 are currently pending. Claim 1 is amended herein.

Scheme 1 on page 21 of the Specification is replaced to correct an obvious typographical error. In particular, the formula for structures 1, 2, 2a, 3 and 3a in Scheme 1 incorrectly showed $-(R^4)_3$ as the substituent on the pyridine moiety. The correct substituent is $-(R^4)_n$. No new matter is added by this amendment is that the amendment is supported by the text in the specification wherein the various substituents of the structures in Scheme 1 are defined (see page 19, lines 5, where n is defined as being 0, 1, 2 or 3).

Entry of the above amendments to the claims and specification and reconsideration of the claimed subject matter in light of these amendments and the following remarks is respectfully requested.

Cancellation of Claims 17 and 31-44

Claims 17 and 31-44 were previously withdrawn from consideration as being directed to non-elected subject matter. These Claims are cancelled herein.

Objection to Claims 4 and 12 under 37 CFR 1.75(c)

Applicants acknowledge the withdrawal of the objection of Claims 4 and 12 in view of Applicants' amendment to Claim 4 and cancellation of Claim 12 in the afore-mentioned Amendment, filed December 4, 2002.

Rejection of Claims 16 and 18-29 under 35 U.S.C. 112, ¶ 2

The Examiner has maintained the rejection of Claims 16 and 18-29 under 35 U.S.C. 112, ¶ 2. In particular, the Examiner states that:

. . . applicants arguments are not convincing. Applicants argue that the claim is read in light of the specifications. Applicants definition of aryl is a aromatic ring [monocyclic] or polycyclic ring. Applicants claim 1 just states it is an aryl or an aryl(alkylene). It does not say it can be optionally substituted. Thus the claim itself does not have any antecedent basis for the substitution.

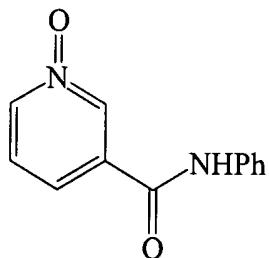
For the reasons set forth in the afore-mentioned Amendment, filed December 4, 2002, Applicants continue to traverse this rejection. As noted on page 11, lines 10-11, of the specification, the use of the term "aryl" (at any occurrence, including in the term "aryl(alkylene)") is meant to include aryl groups which are unsubstituted and aryl groups which are substituted with one or more of the substituents. "Substituents" are defined on page 15, lines 9-15, of the specification. Thus, one of ordinary skill in the art, upon reading the claims **in light of the definition of the terms within the specification**, would clearly understand that R³ in claim 1 includes aryl groups that are substituted or unsubstituted **and** aryl(alkylene) groups wherein the aryl portion of the aryl(alkylene) group can be substituted or unsubstituted. Accordingly, Applicants respectfully submit that Claim 1 provides clear antecedent basis for the various substituents set forth in Claim 16 and for the various substituents on the compounds disclosed in Claim 18-29.

However, in the interest of placing this application in condition for allowance, Applicants have amended Claim 1 by inserting the phrase "substituted or unsubstituted" before each term in Claim 1 that is defined in the specification as including both substituted and unsubstituted forms. This amendment is fully supported in the specification as originally filed and does not constitute new matter.

Accordingly, in view of the foregoing remarks and amendment to Claim 1, Applicants respectfully request that the rejection of Claim 16 and Claims 18-29 under 35 U.S.C. 112, ¶ 2, be withdrawn and that these claims be allowed to issued forthwith.

Rejection of Claims 1, 2, 4 and 13 under 35 U.S.C. 102(b)

The Examiner has maintained the rejection of Claims 1, 2 and 4 under 35 U.S.C. 102(b) and newly rejected Claim 13 under same in view of the disclosure of CAPplus English Abstract DN 75:75600, entitled "Intramolecular hydrogen bond. IV. The ir spectra of N-oxides of anilides of pyridinecarboxylic acids," by Mirek, Julian *et al.*, (1971), 45(2), 205-9 ("CAPplus 75:75600"). In particular, the Examiner contends that the following compound, *i.e.*, RN # 14178-43-9, reads on compounds of the invention when n is 0, R² is hydrogen and R³ is phenyl:



RN # 14178-43-9

Claim 2 is cancelled, thereby rendering moot this rejection with respect to this Claim. With respect to Claims 1, 4 and 13, Applicants respectfully traverse this rejection for the following reasons.

Claim 1 contains a proviso that clearly removes RN # 14178-43-9 from the scope of the Claim. In particular, the proviso read as follows:

... provided, however, . . . that when n is 0, and R³ is phenyl
optionally substituted by methoxycarbonyl, R¹ can not be selected from R⁵
where R⁵ is hydrogen.

This proviso removes from the scope of Claim 1 all compounds wherein n is 0, R³ is phenyl **optionally substituted** by methoxycarbonyl, and R¹ is hydrogen, **regardless of what R² can be**. As discussed in detail above, the phrase "optionally substituted" means the same as "substituted or unsubstituted", so this proviso also removes from the scope of Claim 1 all compounds wherein n is 0, R³ is **unsubstituted** phenyl (as in RN # 14178-43-9) or phenyl substituted with methoxycarbonyl, and R¹ is hydrogen, **regardless of what R² can be**.

However, in the interest of placing this application in condition for allowance, the proviso in Claim 1 is amended to specifically state the following:

... provided, however, ... that when n is 0, and R³ is phenyl or phenyl substituted by methoxycarbonyl, R¹ can not be selected from R⁵ where R⁵ is hydrogen.

Accordingly, in view of the foregoing remarks and the amendment to Claim 1, Applicants respectfully submit that Claims 1, 4 and 13 are not anticipated by RN # 14178-43-9, and therefore respectfully request that the rejection of Claims 1, 4 and 13 under 35 U.S.C. 102(b) in view of the disclosure of CAPlus 75:75600 be withdrawn and that these claims be allowed to issue forthwith.

Rejection of Claims 1, 5, 6, 8, and 17 under 35 U.S.C. 112, ¶ 1

The Examiner has newly rejected Claims 1, 5, 6, 8 and 17 under 35 U.S.C. 112, ¶ 1, for allegedly not reasonably enabling any person skilled in the art to which it pertains, to make and use the invention commensurate in scope. In particular, the Examiner states that:

... because the specification, while being enabling for R1 and R4 being aryl or alkyl, halogen, does not reasonably provide enablement for any heteroaryl, heterocycle aliphatic ring. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with these claims. The various groups for R1 and R4 are not enabled and would require an undue amount of experimentation to make and use them. . . .

The presence of different groups which may be larger than the compound core itself would certainly have an effect on the various functional groups and oxide itself. This would require different solvents, protective groups, and steps to make and use them.

The breadth of the claims is too broad and the predictability in the art is very low, that one of average skill in the art would be able to make and use the compounds without any UNDUE experimentation.

Claim 17 is cancelled herein, thereby rendering moot this rejection with respect to this Claim. With respect to Claims 1, 5, 6 and 8, Applicants respectfully traverse this rejection for the following reasons.

The substituents for R¹ in Claim 1 (as amended) are R⁵ and R⁵-(C₁-C₆heteroalkylene)- where R⁵ is selected from hydrogen, halogen, substituted or unsubstituted alkyl, substituted or unsubstituted heteroalkyl, substituted or unsubstituted aryl, substituted or unsubstituted heteroaryl, substituted or unsubstituted carbocycle aliphatic ring and substituted or unsubstituted heterocycle aliphatic ring, substituted or unsubstituted amino or hydroxy. The substituents for R⁴ in Claim 1 (as amended) are halogen, substituted or unsubstituted alkyl, substituted or unsubstituted heteroalkyl, substituted or unsubstituted aryl, substituted or unsubstituted heteroaryl, substituted or unsubstituted carbocycle aliphatic ring and substituted or unsubstituted heterocycle aliphatic ring, substituted or unsubstituted amino or hydroxy. Methods for preparing compounds of the invention with each of these substituents are disclosed by the teachings of the specification, including the Examples, or disclosed in standard chemistry textbooks, such as *Advanced Organic Chemistry: Reactions, Mechanisms and Structure*, March, J. and Smith, M.B., 5th Edition (2001). For example, compounds of the invention wherein R¹ is heteroaryl (particularly, unprotected N-heteroaryls) can be prepared in a manner similar to that described in Example 5 (where R¹ is imidazol-1-yl). Compounds of the invention wherein R¹ is heterocycle aliphatic ring can be prepared in a manner similar to that described in Example 7 (where R¹ is pyrrol-1-yl). Compounds of the invention wherein R⁴ is halo, such as those described in Example 15, can be similarly combined with the appropriate N-heteroaryl or N-heterocycle aliphatic ring under standard alkylation conditions to produce

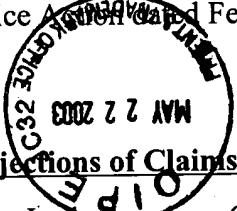
compounds of the invention wherein R⁴ is heteroaryl or heterocycle aliphatic ring. Compounds of the invention wherein R¹ is -S(O)₂-R⁵ can be prepared according to the methods described in Example 20. Compounds of the invention wherein R¹ is as described in Claim 8 can be prepared, for example, according to the methods described in Example 1, Example 16, and Example 17. Furthermore, as the specification describes on page 22, lines 13-23, when R¹ or R⁴ in intermediate 2 in Scheme 1 is a leaving group, such as halide, the intermediate 2 can be treated with the appropriate nucleophile under suitable conditions to produce compounds of the invention where R¹ or R⁴ are as described in Claim 1. Suitable conditions are well known in the art for nucleophilic substitution as well as the appropriate nucleophiles.

Accordingly, Applicants respectfully submit that the disclosure of the specification with respect to method of making the compounds disclosed in Claim 1 (as amended) is sufficient for one of ordinary skill in the art to make the compounds disclosed therein.

Furthermore, Applicants respectfully submit that the disclosure of the specification with respect to the methods of using the compounds of the invention as disclosed in Claim 1 (as amended) is sufficient for one of ordinary skill in the art to use the compounds for the intended indication without undue experimentation. Example 21 and Example 22 both disclose assays which one of ordinary skill in the art can use to test the biological activity of the compounds of the invention. The Examiner has not provided any evidence that would suggest that the compounds of the invention would not be effective in these assays.

Therefore, in view of the disclosure of the specification with respect to the methods of making and the methods of using the compounds of the invention, Applicants respectfully submit that the compounds disclosed in Claims 1, 5, 6 and 8 are clearly enabled, and respectfully request the rejection of these claims under 35 U.S.C. 112 ¶ 1 be withdrawn and that these claims be allowed to issue forthwith.

Application No. 10/015,861
Reply to Office Action dated February 26, 2003



Previous Rejections of Claims 1, 4, 9-11, 13 and 16 under 35 U.S.C. 102(b)

In the previous Office Action, the Examiner rejected Claims 1, 4 and 9-11 under 35 U.S.C. 102(b) in view of U.S. Patent No. 4,978,385, and also rejected Claims 1, 4, 13 and 16 under 35 U.S.C. 102(b) in view of CAPlus English Abstract DN 131:237246. Written confirmation that Applicants' previously filed arguments with respect to these rejections were persuasive in overcoming these rejections is hereby requested for the record.

Conclusion

In view of the foregoing amendments and remarks, Applicants respectfully submit that the rejection of Claims 16 and 18-29 under 35 U.S.C. 112, ¶ 2, the rejection of Claims 1, 2, 4 and 13 under 35 U.S.C. 102(b), and the rejection of Claims 1, 5, 6, 8, and 17 under 35 U.S.C. 112, ¶ 1, are hereby overcome, and respectfully request allowance of Claims 1, 4-11, 13-16 and 18-30. Such action is earnestly solicited at an early date.

The Commissioner is authorized to charge any additional fees due by way of this Amendment, or credit any overpayment, to our Deposit Account No. 19-1090.

Respectfully submitted,

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